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1 3. (Amended) The method according to claim 1,
2 wherein dummy sections of a plurality of raw bars are arranged on one side in
3 said supporting jig, and
4 wherein air bearing surface patterns are formed on ABS faces of said plurality
5 of raw bars by photolithography.

REMARKS

As a preliminary matter, the Specification has been amended to correct for typographical errors. Reconsideration and withdrawal of the outstanding objection thereto are therefore respectfully requested in light of these amendments.

Claims 1-5 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Claims 1-5 have been amended to correct for the cited typographical, grammatical, and antecedent basis errors. Reconsideration and withdrawal of the outstanding Section 112 rejection are also respectfully requested in light of these amendments.

Claims 1-2 stand rejected under 35 U.S.C. 102(e), as being anticipated by Applicant's Admitted Prior Art. ("the AAPA"). Applicant respectfully traverses this rejection because the cited reference does not disclose (or suggest) a method of manufacturing a head slider where a substrate wafer having a thickness greater than the

length of the head slider is cut into at least one raw bar, as in claim 1 of the present invention,
as amended.

✓ The AAPA discloses that conventional wafers typically have a thickness equal to, or slightly greater than, a length of the head slider. However, the AAPA further discloses that when the thickness of the wafer is greater than the length of the slider, the wafer is abraded to make the thickness equal to the slider length. Only after this abrasion occurs, and the wafer thickness is made equal to the slider length, is the wafer cut into raw bars. The AAPA is therefore different from the present invention.

In contrast, claim 1 of the present invention as amended recites, among other things, that a substrate wafer having a thickness greater than the head slider length is cut into raw bars. In other words, the present invention cuts the wafer into raw bars without first abrading the wafer to make the thickness equal to the length of the head slider, as required by the AAPA. The wafer in the present invention is cut into raw bars while its thickness is still greater than the length of the head slider. Because the AAPA requires that the two dimensions to be made equal by abrasion before cutting, the Section 102 rejection is respectfully traversed.

Claims 3-5 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA in view of the NGK reference (JP8-90407). Applicants respectfully traverse this rejection for at least the reasons cited above in traversing the rejection of independent claim

1. Claims 3-5 all depend from claim 1, and therefore include all of the features of the base claim, plus additional features. Applicants further traverse as follows.

As discussed above, the AAPA specifically requires that a substrate wafer having a thickness greater than the head slider length first be abraded to equalize the two dimensions before cutting the wafer into raw bars. The present invention, on the other hand, features a method which cuts a wafer into raw bars while the wafer thickness is still greater than the length of the head slider. Nothing in the AAPA suggests that the wafer can be cut into raw bars without first abrading to make the dimensions equal. In fact, the AAPA specifically teaches away from such a method.

A rejection based on obviousness cannot be maintained when one of the cited references teaches away from the invention in question. In this case, the AAPA does just that by requiring the wafer thickness to be made equal to the slider length before cutting. The Section 103 rejection based at least in part on the AAPA is respectfully traversed for at least these reasons, and should therefore be withdrawn.

The NGK reference was cited only for teaching a jig support and a dummy section. Nothing in the NGK reference discloses or suggests cutting a wafer having a thickness greater than the head slider into raw bars. Section 2143.03 of the MPEP requires that, to establish the *prima facie* case of obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art itself. Because neither of the cited

references even teaches or suggest this specific feature of the method of the present invention, the obviousness rejection is again respectfully traversed for at least these additional reasons.

Additionally, the present invention realizes distinct advantages over both of the cited references, alone or together. By cutting raw bars from a wafer with a thickness greater than the length of the head slider, overall material strength of the wafer can be improved, thereby also improving the ability to treat the wafer and execute precise patterning. Such advantageous results and solutions to existing problems are to be considered in the determination of obviousness, particularly when the cited prior art fails to address such advantages, or the problems they solve. Accordingly, the outstanding obviousness rejection is even further traversed for these reasons as well.

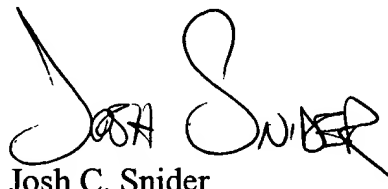
Attached hereto is a marked-up version of the changes made to the Specification and claims by the current amendment. The attached Appendix is captioned **“Version with Markings to Show Changes Made.”**

Applicant submits that this Application, including claims 1-5, is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if an interview would expedite prosecution.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By

A handwritten signature in black ink, appearing to read "Josh C. Snider". The signature is stylized with a large, looping "S" and a distinct "J".

Josh C. Snider
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November 6, 2002

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The paragraph beginning on page 1, line 17, has been amended as follows:

These days, ~~recording~~recording density of ~~magnetti~~magnetic disks have been higher, so that sizes of sliders of magnetic heads must be small. Sizes of the conventional sliders, e.g., a nano-slider, a pico-slider, a femto-slider, are shown in TABLE.

The Table on page 1 has been replaced with the following Table:

TABLE

Slider	Length L (mm)	Thickness D (mm)	Lenth <u>Length</u> of Raw Bar (mm)
nano-slider	about 2.05	0.40	40-50
pico-slider	about 1.25	0.30	40-50
femto-slider	about 0.85	0.23-0.35	40-50

The paragraph on page 4, line 13, has been amended as follows:

In the present invention, the thickness of the wafer for manufacturing ~~magnetic~~magnetic heads is thicker or greater than a length "L" of the slider. In the conventional method, the thickness of the wafer is made equal to the length of the slider, the film layers are formed on the wafer so as to make the magnetic head elements thereon, then raw bars are made by cutting the wafer. Since the thickness of the wafer is equal to the length of the slider, a width of each raw bar can be equal to the length of the slider.

IN THE CLAIMS:

Please amend claims 1-3 as follows:

- 1 1. (Amended) A method of manufacturing a head slider;
- 2 comprising the steps of:
- 3 forming a magnetizable layer, on a surface of a substrate ~~wafer~~whose having a
- 4 thickness ~~is greater~~ than a length of said slider; and
- 5 cutting said wafer into at least one raw bar after forming the ~~layers~~layer.
- 6

1 2. (Amended) The method according to claim 1,
2 wherein said raw bar, ~~whose~~ has a thickness ~~is~~ greater than a length of said
3 slider, and is supported by a supporting jig in ~~said~~ a machining step.

1 3. (Amended) The method according to claim 1,
2 wherein dummy sections of a plurality of ~~said~~ raw bars are arranged on one
3 side in said supporting jig, and
4 wherein air bearing surface patterns are formed on ABS faces of said plurality
5 of raw bars by photolithography.